

**Appendix B**

**A clean copy of the claims dated 27 October 2008**

5 **In the claims**

1. An operations, management, capacity, and services (OMCS) tool for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network, the tool comprising:
  - 10 (a) means for inputting data and options for plurality of network architectures, network management processes, and service and customer management processes by an analyst;
  - (b) means for engineering the plurality of network architectures based on the data and options of (a);
  - 15 (c) means for determining suppliers' equipment costs for said plurality of network architectures;
  - (d) means for engineering the network management processes and the service and customer management processes, based on the data and options of (a), for managing said plurality of network architectures;
  - 20 (e) means for determining suppliers' management processes costs for the network management processes and the service and customer management processes;
  - (f) means for validating and calibrating the data and options and the costs for the plurality of network architectures, the network management processes, and the service and customer management processes;
  - 25 (g) means for determining, based on the costs of the plurality of network architectures and the network management processes and the service and customer management processes, business parameters for the business solutions; and
  - 30 (h) means for storing or displaying the business parameters for the business solutions for the telecommunications network.

2. The tool as described in claim 1, wherein the means (a) comprises means for inputting traffic data; customer data; and financial and labor data.
3. The tool as described in claim 2, wherein the means (a) further comprising:
- 5 - means for inputting technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and
- 10 dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
- means for inputting options for the network management processes which comprise at least one of: inside plant maintenance, outside plant
- 15 testing, and repairs for managing the network architecture for the business solution; and
- means for inputting options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management
- 20 (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.
- 25 4. The tool as described in claim 1, wherein the means (g) comprises:
- means for computing the business parameters for the business solutions over a pre-determined study period; and
- means for determining business parameters which comprise at least one of: capital expenditure (CAPEX), wherein the CAPEX comprises a network
- 30 architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and

5 administration (SG&A); revenue; capacity; return on investment (ROI);  
earnings before interest, taxes, and depreciation and amortization  
(EBITDA); earnings before interest and taxes (EBIT); the OPEX as  
percentage of the revenue; and total expenditure as percentage of the  
revenue, wherein the total expenditure comprises the CAPEX and the  
OPEX.

- 10 5. The tool as described in claim 3, wherein the means (b) comprises means for  
engineering the network architecture for the business solution.
- 15 6. The tool as described in claim 3, wherein the means (d) comprises means for  
engineering the network management processes and the service and customer  
management processes for managing the network architecture for the business  
solution.
- 20 7. The tool as described in claim 4, wherein the means (h) comprises means for  
displaying the business parameters in tables and graphical charts for the business  
solutions over the pre-determined study period.
- 25 8. The tool as described in claim 5, wherein the means (c) comprises means for  
determining a network architecture cost and a leasing cost for the network  
architecture for the business solution.
9. The tool as described in claim 8, wherein the means (f) comprises means for  
validating and calibrating the data and options; the network architecture cost;  
and the leasing cost for said network architecture for the business solution.
- 30 10. The tool as described in claim 8, wherein the means (b) further comprising  
means for determining an owned network elements (NEs) count; a leased NEs  
count; an owned customer premise equipment (CPE) count; a leased CPE count;  
an owned links count; a leased links count; and a leased ports count for said

network architecture; and wherein said network architecture having NEs, CPE, and links from the same or different equipment suppliers.

11. The tool as described in claim 10, wherein the means (c) further comprising  
5 means for determining a price per network element (NE), a footprint per NE cost, a power consumption per NE cost; a price per CPE, a footprint per CPE cost, and a power consumption per CPE cost; and a price per link and a link transmission rate.
12. The tool as described in claim 11, wherein the means for determining the  
10 network architecture cost comprises a means for computing a total owned NEs cost; a total owned CPE cost; and a total owned links cost for said network architecture for the business solution; and wherein the means for determining the leasing cost comprises a means for computing a total footprints cost and a  
15 total power consumptions cost for said owned NEs and CPE.
13. The tool as described in claim 10, wherein the means (c) further comprising  
means for determining a leased per NE cost, a footprint per NE cost, and a  
20 power consumption per NE cost; a leased per CPE cost, a footprint per CPE cost, and a power consumption per CPE cost; a leased per link cost; a leased link per unit length cost, a unit length per link count, and a link transmission rate; and a leased per port cost.
14. The tool as described in claim 13, wherein the means for determining the leasing  
25 cost comprises a means for computing a total leased NEs cost; a total leased CPE cost; a total footprints cost and a total power consumptions cost for said leased NEs and CPE; a total leased links cost; a total leased links per unit length cost; and a total leased ports cost for said network architecture for the business.
15. The tool as described in claim 6, wherein the means (e) comprises:  
30 - means for determining a network management processes cost, wherein the means for determining the network management processes cost comprises

- means for determining costs for inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution;
- 5        - means for determining a service and customer management processes cost, wherein the means for determining the service and customer management processes cost comprises means for determining costs for customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for each link in the network architecture for the business solution; and
- 10       - means for determining a management processes cost which comprises the network management processes cost and the service and customer management processes cost means.
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16. The tool as described in claim 15, wherein the means for engineering the network management processes comprises a means for engineering at least one of the following processes: inside plant maintenance; outside plant maintenance;
- 20       network engineering; network provisioning; installation; testing; and repairs.
17. The tool as described in claim 16, further comprising means for determining the network management processes cost for said network management processes for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.
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18. The tool as described in claim 15, wherein the means for engineering the service and customer management processes comprises a means for engineering at least one of the following processes: customer relationship management (CRM);
- 30       work order management (WOM); network inventory management (NIM); service activation and provisioning (SAP); fault management (FM);

performance management (PM); accounting and billing; and security management.

19. The tool as described in claim 18, further comprising means for determining  
5 costs of the customer relationship management (CRM); the work order management (WOM); the network inventory management (NIM); the service activation and provisioning (SAP); the fault management (FM); the performance management (PM); the accounting and billing; and the security management for at least one of: a manual operations mode; a mechanized operations mode; and a  
10 manual and mechanized operations mode.
20. (canceled)
21. The tool as described in claim 19, wherein the means for determining the cost of  
15 the customer relationship management (CRM) comprises means for determining costs for at least one of: a work order entry and validation process; a service delivery and work order processing process; a customer care process; a trouble ticketing process; and a service assurance and performance reporting process.
22. The tool as described in claim 19, wherein the means for determining the cost of  
20 the work order management (WOM) comprises means for determining costs for at least one of: a work order processing process; a client management process; a report management process; and an administration management process.
23. The tool as described in claim 19, wherein the means for determining the cost of  
25 the network inventory management (NIM) comprises means for determining costs for at least one of: a customer, services, and resources association management process; an equipment management process; and a network management process.  
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24. The tool as described in claim 19, wherein the means for determining the cost of the service activation and provisioning (SAP) comprises means for determining

costs for at least one of: a create a new service process; a customer association process; a process for aligning and synchronizing with billing, maintenance, and performance; and a resource discovery and database quires process.

- 5     25.    The tool as described in claim 19, wherein the means for determining the cost of the fault management (FM) comprises means for determining costs for at least one of: a trouble ticketing process; an isolate problem process; and an analysis and resolution for service logic agreement (SLA) process.
- 10    26.    The tool as described in claim 19, wherein the means for determining the cost of the performance management (PM) comprises means for determining costs for at least one of: a collect performance data process; a generate performance reports process; and a validate service logic agreement (SLA) process.
- 15    27.        (canceled)
28.        (canceled)
29.        (canceled)
- 20    30.        (canceled)
31.    A method for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network, the method comprising the steps of:
- 25            (n)    inputting data and options for plurality of network architectures, network management processes, and service and customer management processes by an analyst;
- (m)    engineering the plurality of network architectures based on the data and options of (n);
- 30            (u)    determining suppliers' equipment costs for said plurality of network architectures;

- (v) engineering the network management processes and the service and customer management processes, based on the data and options of (n), for managing said plurality of network architectures;
- 5 (w) determining suppliers' management processes costs for the network management processes and the service and customer management processes;
- (x) determining, based on the costs of the plurality of network architectures and the network management processes and the service and customer management processes, business parameters for the business solutions;
- 10 (y) validating and calibrating the data and options and the costs for the plurality of network architectures and the network management processes and the service and customer management processes; and
- (z) storing or displaying the business parameters for the business solutions for the telecommunications network.

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32. The method as described in claim 31, wherein the step (x) comprises:
- computing the business parameters for the business solutions over a pre-determined study period; and
  - determining at least one of the business parameters which comprise: capital expenditure (CAPEX), wherein the CAPEX comprises a network
- 20 architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A); revenue; capacity; return on investment (ROI);
- 25 earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before interest and taxes (EBIT); the OPEX as percentage of the revenue; and total expenditure as percentage of the revenue, wherein the total expenditure comprises the CAPEX and the OPEX.

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33. The method as described in claim 31, wherein the step (n) comprises:
- inputting traffic data, customer data, and labor and financial data;



- inputting technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
  - inputting options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution; and
  - inputting options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.
34. The method as described in claim 33, wherein the step (u) comprises determining a network architecture cost and a leasing cost for the network architecture for the business solution.
35. The method as described in claim 34, wherein the step (m) comprises engineering the network architecture for the business solution.
36. The method as described in claim 33, wherein the step (v) comprises:
- engineering network management processes which comprise engineering at least one of the following processes: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs; and
  - engineering the service and customer management processes which comprises engineering at least one of the following processes: customer

relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management.

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37. The method as described in claim 36, wherein the step (w) comprises:

- determining a network management processes cost for the network management processes, which comprises determining costs of inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode;
- determining a service and customer management processes cost for the service and customer management processes, which comprises determining costs of customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for each link in the network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode; and
- determining a management processes cost comprising the network management processes cost and the service and customer management processes cost.

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38. The method as described in claim 32, wherein the step (z) comprises a step of tabulating and graphically charting the business parameters for said business solutions over said pre-determined study period.

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39. A computer-readable medium containing program instructions for causing a computer to perform the method of claim 31.